Update on AVDC data

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Outline

- Status
- Cal/Val support
- Validation data centers
- Future plans

Status

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- Routine operations on-going (http://avdc.gsfc.nasa.gov)
  - *Hardware: 5/4/2 ops/backup/new server, 24 TB storage*
- Currently 350+ registered users
- $2.5*10^6$ pages accessed
  - *$59*10^3$ login access in last 12 months (~160/day)*
- ~9 TB downloads in last year (~24 GB/day)
- Total correlative data volume:
  - *~450 GB*
  - *correlative satellite datasets: ~5 TB*

Datasets

- Continue to mirror all Aura L2 data from DISC
- Continue to host preliminary, experimental and complimentary satellite datasets:
  - *Aura preliminary and test datasets*
    - Tropospheric ozone residual (Schoeberl)
    - L3 datasets (OMNO2 0.25 x 0.25 and 0.05 x 0.05 deg)
  - *AIRS, Scisat ACE*
  - *NOAA 16-18 SBUV v8 profiles*
  - *Envisat GOMOS, MIPAS, SCIAMACHY (+CO2)*
  - *MetOp GOME2 (O3, NO2, SO2)*
- Maintain Aura related campaign archives
  - *SAUNA (1&2), WAVES, TMF NO2 campaign, etc.*
  - *Mirror aircraft/large balloon missions*

Cal/val support

L2/L3 subsets & colocation

- Sub-setting is updated as Aura L2 data becomes available (Sep 2009):
  - *All OMI products (HDF5 and ASCII)*
    - O3: 570 sites
    - Aerosol: 328 sites, including all current Aeronet sites
    - NO2: 609 sites
    - UV: 174 sites
    - SO2: 165 sites
  - *MLS, HIRDLS and TES*
    - O3, T, H2O at NDACC sites and other key profiling stations

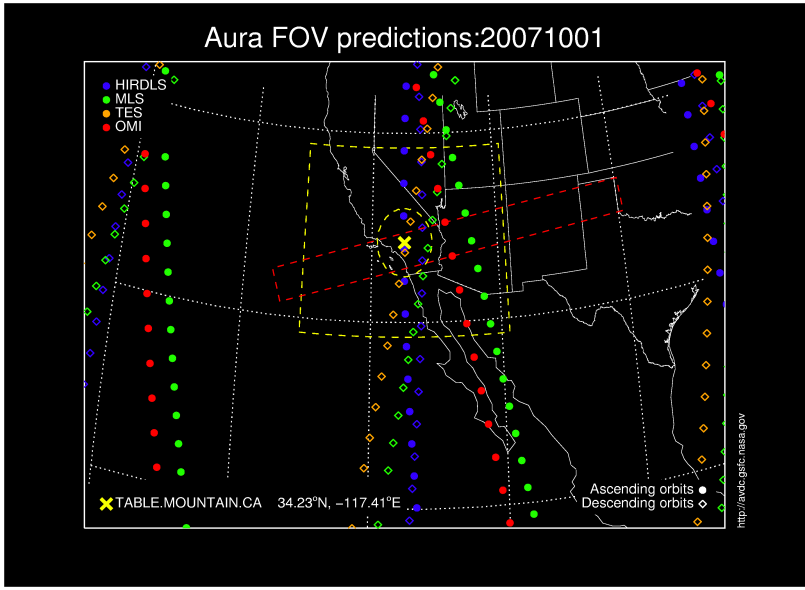
- *Subsetting of non-Aura data*
  - MODIS, GOME2

- Campaign and regional sub-setting on request

- Contact AVDC for information/additional requests

Satellite instrument field of views (FOV)

- Aura FOVs
  - *Predictions in support of PIs and campaigns*
  - *16-day Aura instrument FOV predictions for stations and campaigns (updated daily)*
  - *Actual FOVs*
  - *Actual coincidences and global collocations for temporal and geographic search*
- Generation of FOV for other instruments
  - *Aqua, Terra, CALIPSO, Cloudsat and Envisat for campaigns*
  - *others instruments are easily added*



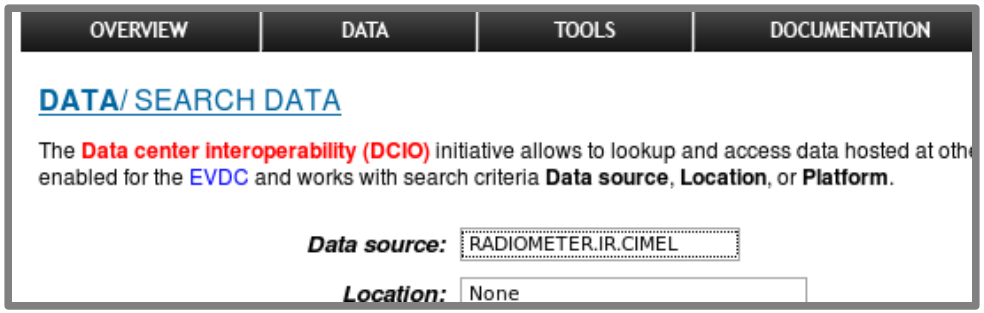
Cal/Val support tools

- Continue direct PI support
  - *Mainly in sub-setting and data conversion*
- Tools and documentation on-line
  - *Creation of HDF datasets (idlcr8hdf + TAV)*
  - *Download tools*
  - *Metadata guidelines (new documentation in finalization)*
  - *Aura ST and WG documentation and presentations*
  - *NDACC AMES formatted data conversion into AVDC/EVDC*
- HDF5 read/write available for correlative data
  - *Download HDF4 and/or HDF5 as per user request*

Validation data centers

Data center interoperability (DCIO)

- Data Centers with correlative observations use a single data format
  - AVDC
  - EVDC (CALVAL, Envisat)
  - NDACC
  - several EC Campaign



- Metadata harmonization
- Interoperable data centers through enabling remote query, catalog replication, data ordering and/or systematic mirroring
- Joint data exchange protocol in discussion (single sign up)
- Effort led jointly by ESA (GECA interoperability project) and AVDC includes new partners: EUMETSAT, EARLINET and GEOMON

GECA mission

Generic Environment for Cal/Val Analysis (GECA) project aims at delivery of

- *Expanded harmonized metadata*
- *Study of standards supporting interoperability between validation data centers*
- *A validation data center implementing these standards, also interoperable with the HMA (Heterogeneous Mission Accessibility) standard for satellite data archives*
- *Open-source data conversion tools*
- *Open-source building blocks (libraries) for collocation algorithms (both for the users local use and for the GECA server*

GECA main components

- GECA Validation Data Centre (GVDC) and end-user analysis toolboxes
  - *Allow Cal/Val analysts and Campaign Coordinators to*
    - Coordinate cal/val activities
    - Identify collocations and retrieve correlative data files
    - Analyze correlative data files and satellite data files using proven and traceable cal/val analysis techniques

- Quality Information and Action Protocol (QAIP)
  - *Identification and investigation of data quality issues*
  - *Investigators to submit or query quality information*

Future plans

Up & Coming

- Focus shifted to long-term validation
  - *Collect and update ground datasets*
  - *Data completeness*
  - *Harmonization of datasets*
- Continue ESA/NDACC efforts
  - *Share datasets and coordinate submissions*
- Include new data centers
  - Radio Occultation
- Proactive on AVDC side but need support from cal/val and instrument teams

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